
Oklahoma Municipal Retirement Fund

**PROJECTED IMPACT OF ASSET EXPERIENCE
ON OKMRF FUNDING REQUIREMENTS**

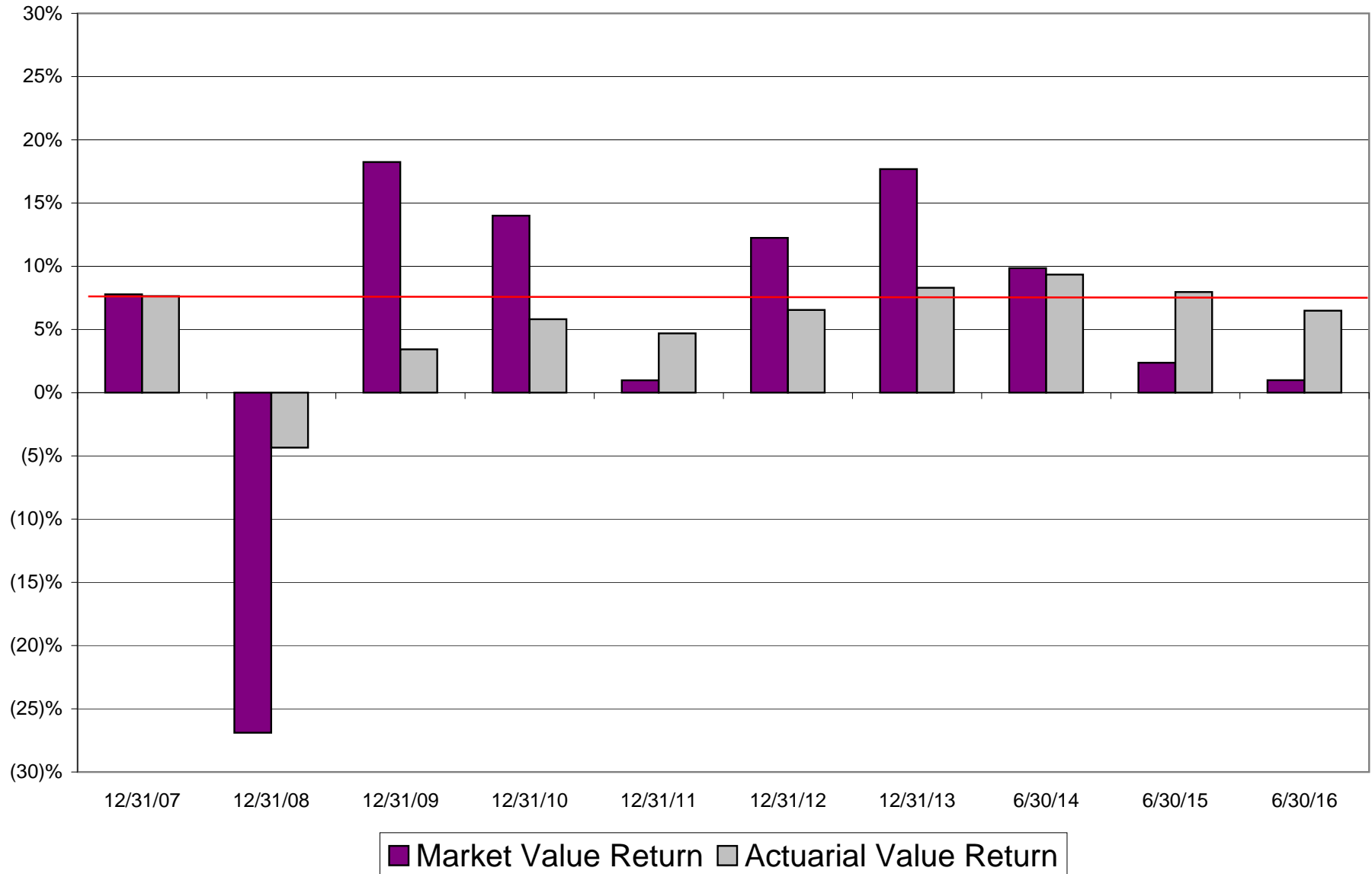
**Effective for the Year Starting
July 1, 2017**

July 29, 2016

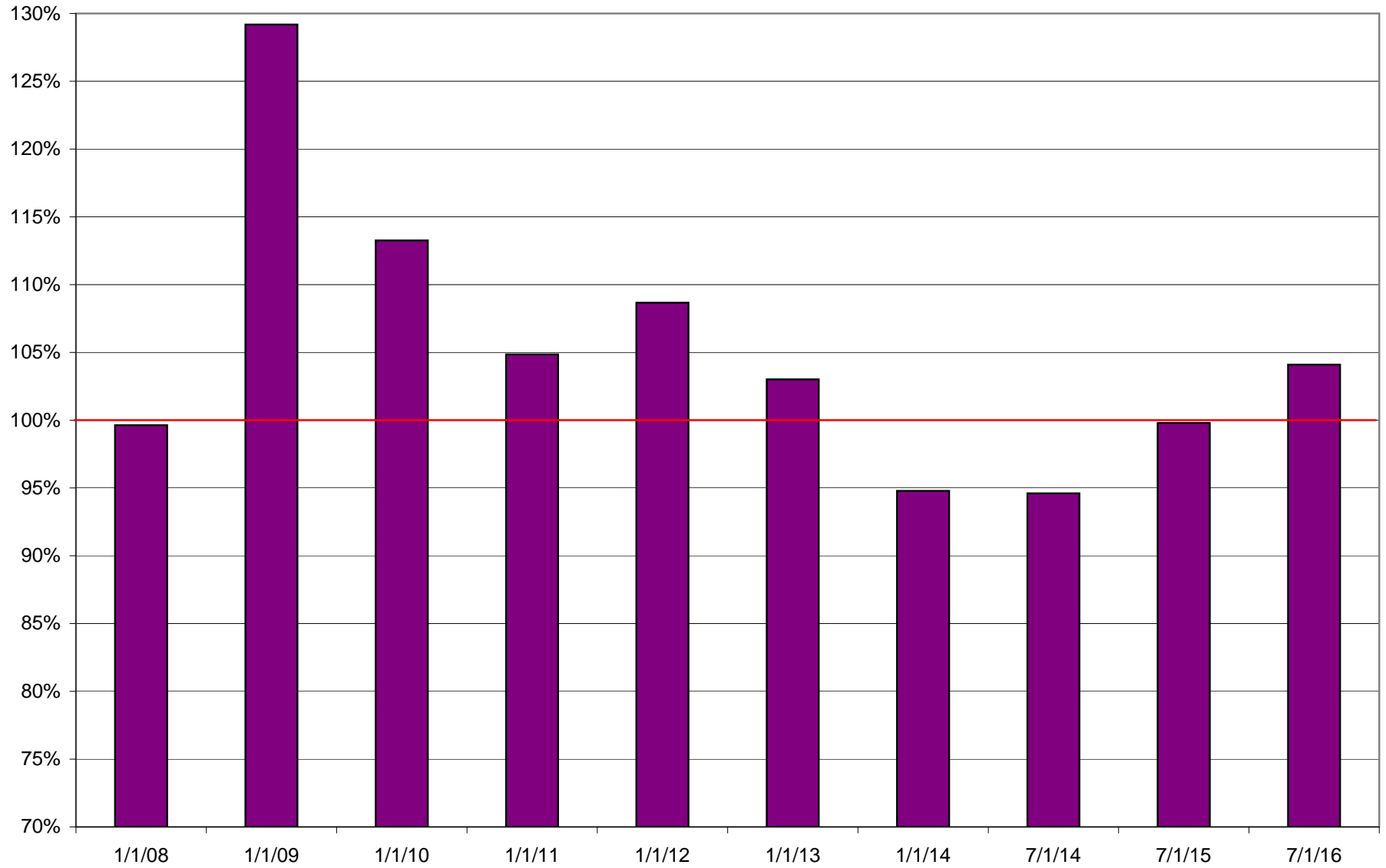
Prepared by

DEAN ACTUARIES, LLC
6440 N CENTRAL EXPY, SUITE 200
DALLAS, TX 75206
(214) 891-0990

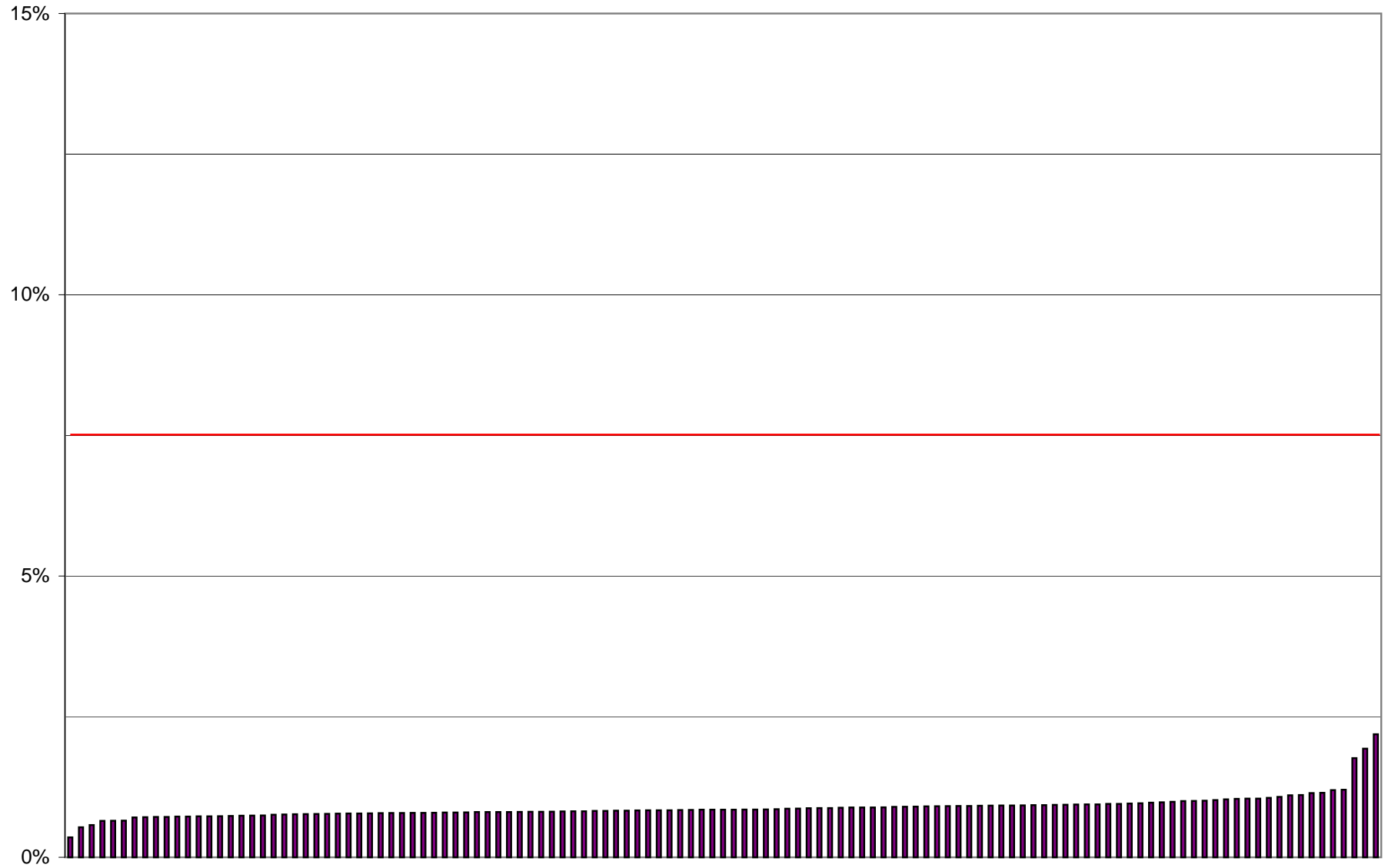
Historical Asset Performance



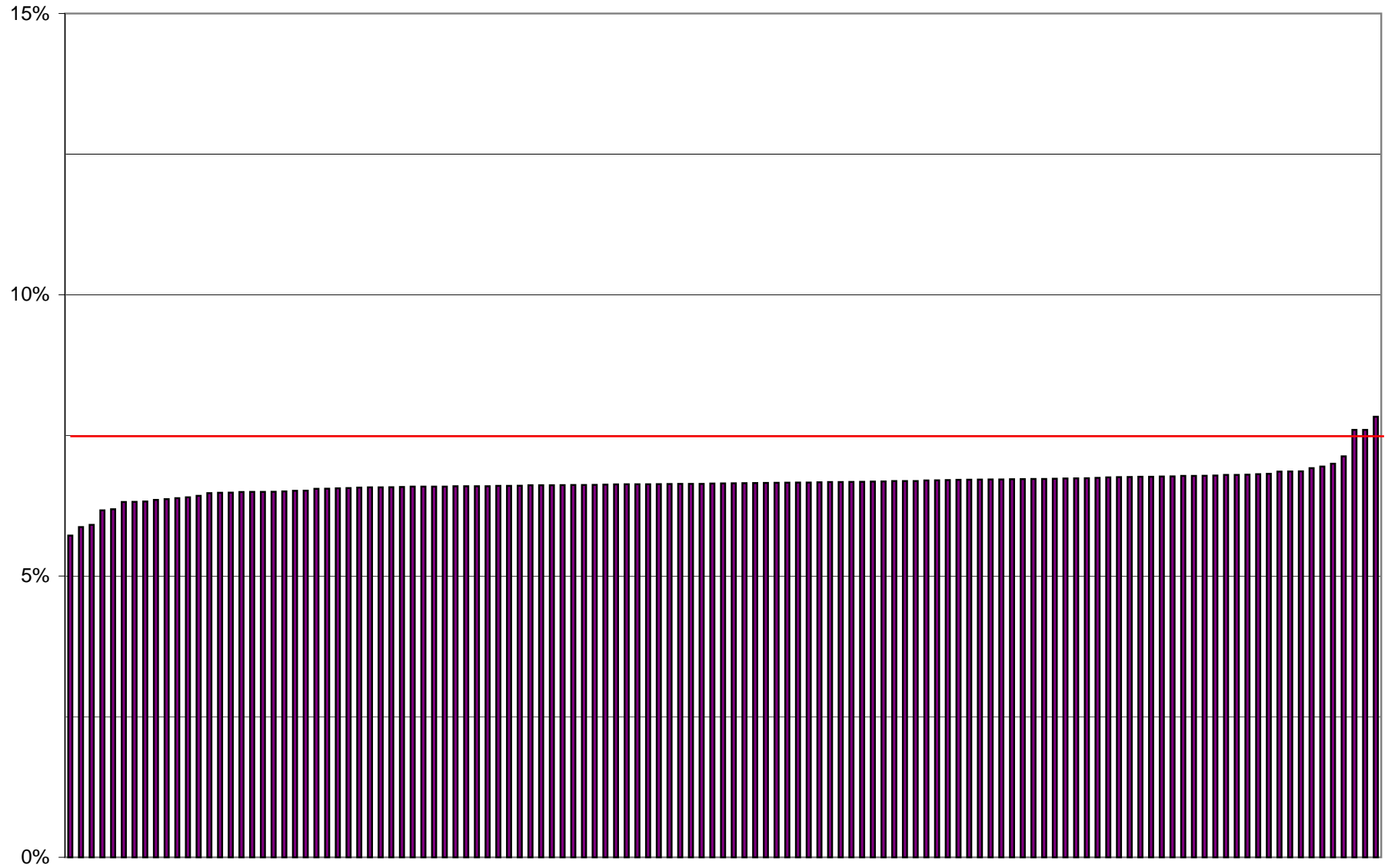
Actuarial Value as % of Market Value



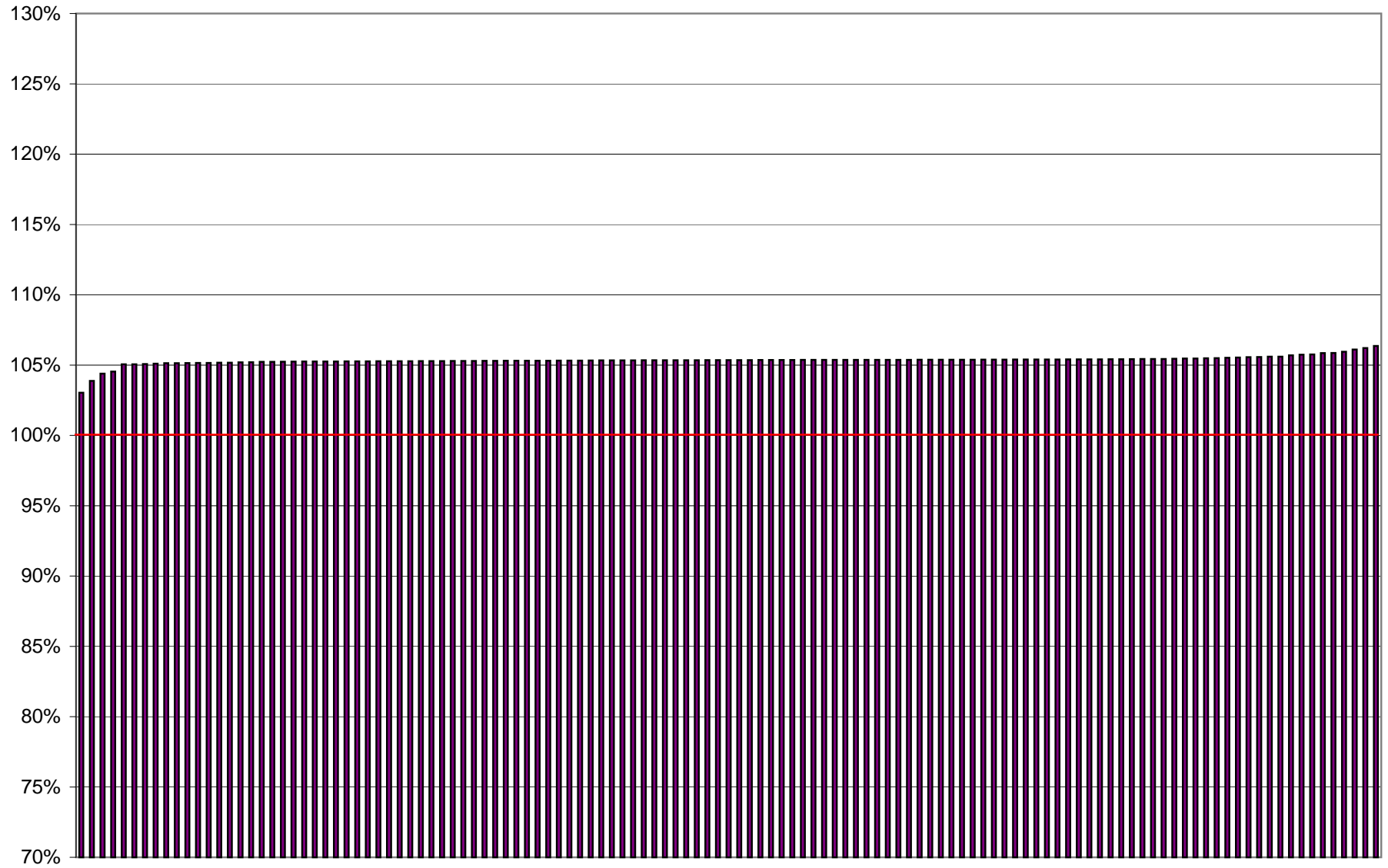
6/30/16 Market Value Return



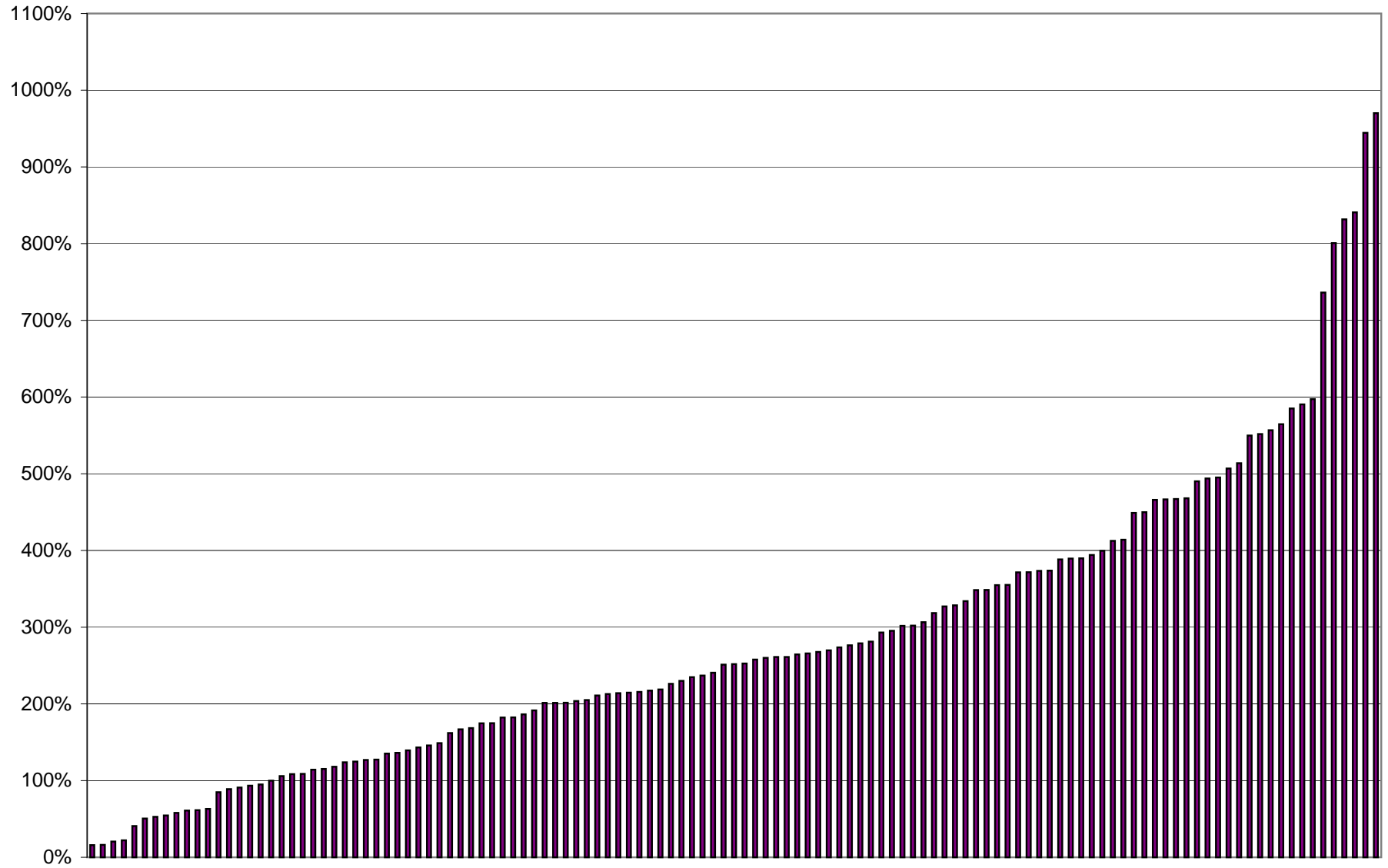
6/30/16 Actuarial Value Return



Actuarial Value as % of Market Value



Prior Year Market Value as % of Payroll



Projected 2017 Cost Changes
(Due to asset experience)

Cost Increases

Increase more than	but not more than	Number of plans
4.0%		0
3.0%	4.0%	0
2.0%	3.0%	0
1.5%	2.0%	1
1.0%	1.5%	1
0.5%	1.0%	12
0.0%	0.5%	66

No change

Cost remains 0%		0
-----------------	--	---

Cost Decreases

Decrease more than	but not more than	Number of plans
0.0%	0.5%	35
0.5%	1.0%	3
1.0%	1.5%	4
1.5%	2.0%	0
2.0%	2.5%	0
2.5%	5.0%	0
5.0%		1

Total plans 123

Average change 0.05%

Median change 0.10%

Change is from 2016 rate if plan provisions have not changed, or if available, from study rate otherwise.

PROJECTED IMPACT OF ASSET RETURN ON OMRF FUNDING REQUIREMENTS

City	2016 Rates						Projected Change Investments		2017 Projected Rates			
	Muni rate	Ee rate	Hybrid rate	Total rate	EANC%	MV % of payroll	Change in muni rate	Change in ee rate	Muni rate	Ee rate	Hybrid rate	Total rate
	Adair	6.70%	4.50%	0.00%	11.20%	11.32%	276%	-0.28%	0.00%	6.41%	4.50%	0.00%
Altus	11.88%	4.00%	0.00%	15.88%	10.11%	414%	-0.08%	0.00%	11.80%	4.00%	0.00%	15.80%
Alva	4.33%	0.00%	0.00%	4.33%	5.14%	175%	0.08%	0.00%	4.41%	0.00%	0.00%	4.41%
Antlers	2.82%	3.00%	0.00%	5.82%	6.12%	146%	-0.13%	0.00%	2.69%	3.00%	0.00%	5.69%
Ardmore	9.40%	6.00%	0.00%	15.40%	15.44%	302%	0.11%	0.00%	9.51%	6.00%	0.00%	15.51%
Bartlesville	19.46%	6.00%	0.00%	25.46%	14.60%	279%	1.96%	0.00%	21.41%	6.00%	0.00%	27.41%
Bethany	12.91%	0.69%	3.91%	17.51%	11.40%	736%	-0.42%	0.00%	12.49%	0.69%	3.91%	17.09%
Bethany/Warr Acres	17.51%	6.00%	0.00%	23.51%	11.35%	801%	0.10%	0.00%	17.61%	6.00%	0.00%	23.61%
Billings	6.16%	3.75%	0.00%	9.91%	8.72%	162%	-0.02%	0.00%	6.13%	3.75%	0.00%	9.88%
Binger	3.61%	2.25%	0.00%	5.86%	4.62%	114%	-0.43%	0.00%	3.18%	2.25%	0.00%	5.43%
Blackwell	12.29%	4.50%	0.00%	16.79%	11.84%	348%	-1.04%	0.00%	11.26%	4.50%	0.00%	15.76%
Blair	7.96%	3.41%	0.00%	11.37%	9.28%	266%	0.19%	0.00%	8.15%	3.41%	0.00%	11.56%
Boise City	12.57%	0.00%	0.00%	12.57%	7.53%	468%	0.08%	0.00%	12.64%	0.00%	0.00%	12.64%
Bokchito	5.48%	3.00%	0.00%	8.48%	6.41%	41%	0.07%	0.00%	5.55%	3.00%	0.00%	8.55%
Braman	25.45%	6.00%	0.00%	31.45%	14.23%	590%	0.58%	0.00%	26.04%	6.00%	0.00%	32.04%
Bristow	8.80%	5.25%	0.00%	14.05%	14.58%	394%	-0.01%	0.00%	8.79%	5.25%	0.00%	14.04%
Broken Bow	6.76%	5.25%	0.00%	12.01%	11.32%	237%	-0.41%	0.00%	6.35%	5.25%	0.00%	11.60%
Buffalo	3.58%	3.50%	0.00%	7.08%	10.71%	490%	0.22%	0.00%	3.80%	3.50%	0.00%	7.30%
Burns Flat	6.72%	3.75%	0.00%	10.47%	6.94%	136%	-0.16%	0.00%	6.56%	3.75%	0.00%	10.31%
Calera	5.34%	3.00%	0.00%	8.34%	5.16%	118%	-0.23%	0.00%	5.11%	3.00%	0.00%	8.11%
Central Oklahoma MCD	19.35%	6.00%	0.00%	25.35%	17.87%	832%	-4.45%	0.00%	14.90%	6.00%	0.00%	20.90%
Chandler	7.06%	4.50%	0.00%	11.56%	9.96%	205%	0.01%	0.00%	7.07%	4.50%	0.00%	11.57%
Checotah	3.85%	3.00%	0.00%	6.85%	5.90%	149%	-0.27%	0.00%	3.58%	3.00%	0.00%	6.58%
Cherokee & CDA	5.60%	2.25%	0.00%	7.85%	4.77%	53%	-0.05%	0.00%	5.56%	2.25%	0.00%	7.81%
Chickasha	10.76%	4.00%	0.00%	14.76%	14.72%	841%	0.15%	0.00%	10.91%	4.00%	0.00%	14.91%
Claremore	4.01%	4.27%	0.00%	8.28%	7.64%	293%	0.10%	-0.14%	4.11%	4.13%	0.00%	8.24%
Cleo Springs	10.20%	3.73%	0.00%	13.93%	0.00%	413%	-1.30%	0.00%	8.90%	3.73%	0.00%	12.63%
Cleveland	16.49%	6.00%	0.00%	22.49%	13.67%	374%	-0.14%	0.00%	16.35%	6.00%	0.00%	22.35%
Clinton	10.04%	5.25%	0.00%	15.29%	15.67%	514%	0.33%	0.00%	10.37%	5.25%	0.00%	15.62%
Collinsville	10.22%	4.00%	0.00%	14.22%	10.44%	241%	0.10%	0.00%	10.32%	4.00%	0.00%	14.32%
Copan	6.09%	1.50%	0.00%	7.59%	2.67%	22%	0.06%	0.00%	6.15%	1.50%	0.00%	7.65%
Cordell	11.66%	0.00%	0.00%	11.66%	10.72%	597%	0.03%	0.00%	11.70%	0.00%	0.00%	11.70%
Cushing	7.72%	0.00%	0.00%	7.72%	8.29%	550%	0.40%	0.00%	8.12%	0.00%	0.00%	8.12%
Davis	7.56%	4.50%	0.00%	12.06%	9.58%	235%	0.00%	0.00%	7.56%	4.50%	0.00%	12.06%

PROJECTED IMPACT OF ASSET RETURN ON OMRF FUNDING REQUIREMENTS

City	2016 Rates						Projected Change Investments		2017 Projected Rates			
	Muni rate	Ee rate	Hybrid rate	Total rate	EANC%	MV % of payroll	Change in muni rate	Change in ee rate	Muni rate	Ee rate	Hybrid rate	Total rate
	Del City	21.74%	6.00%	0.00%	27.74%	14.39%	467%	0.77%	0.00%	22.51%	6.00%	0.00%
Dewey	10.21%	4.00%	0.00%	14.21%	10.33%	270%	0.08%	0.00%	10.29%	4.00%	0.00%	14.29%
Drumright	10.82%	6.00%	0.00%	16.82%	9.57%	389%	-0.16%	0.00%	10.66%	6.00%	0.00%	16.66%
Durant	8.76%	3.50%	0.00%	12.26%	10.44%	388%	0.28%	0.00%	9.04%	3.50%	0.00%	12.54%
El Reno	8.21%	4.50%	0.00%	12.71%	8.77%	109%	-0.07%	0.00%	8.14%	4.50%	0.00%	12.64%
Eufaula	5.33%	3.75%	0.00%	9.08%	7.54%	261%	0.22%	0.00%	5.55%	3.75%	0.00%	9.30%
Fort Cobb	7.84%	3.75%	0.00%	11.59%	6.47%	216%	-0.19%	0.00%	7.65%	3.75%	0.00%	11.40%
Foss Reservoir Public Works	14.69%	3.75%	0.00%	18.44%	7.46%	295%	-0.18%	0.00%	14.51%	3.75%	0.00%	18.26%
Frederick	7.21%	4.33%	0.00%	11.54%	8.64%	390%	-0.47%	0.00%	6.74%	4.33%	0.00%	11.07%
Garber	0.61%	3.75%	0.00%	4.36%	5.83%	91%	-0.17%	0.00%	0.44%	3.75%	0.00%	4.19%
Geary	6.96%	2.99%	0.00%	9.95%	9.86%	168%	0.16%	0.07%	7.12%	3.06%	0.00%	10.18%
Goodwell	3.91%	3.00%	0.00%	6.91%	5.10%	108%	-0.23%	0.00%	3.68%	3.00%	0.00%	6.68%
Gore and Gore PWA	3.48%	3.75%	0.00%	7.23%	8.05%	95%	-0.20%	0.00%	3.28%	3.75%	0.00%	7.03%
Granite	15.80%	4.00%	0.00%	19.80%	13.94%	495%	0.25%	0.00%	16.05%	4.00%	0.00%	20.05%
Guthrie	6.79%	3.69%	0.00%	10.48%	9.84%	302%	-0.14%	0.00%	6.65%	3.69%	0.00%	10.34%
Harrah	12.07%	5.25%	0.00%	17.32%	11.29%	268%	0.15%	0.00%	12.22%	5.25%	0.00%	17.47%
Healdton	8.53%	6.00%	0.00%	14.53%	13.30%	466%	0.53%	0.00%	9.06%	6.00%	0.00%	15.06%
Henryetta	8.32%	4.50%	0.00%	12.82%	7.93%	274%	0.15%	0.00%	8.46%	4.50%	0.00%	12.96%
Hooker	12.08%	3.75%	0.00%	15.83%	10.00%	201%	0.21%	0.00%	12.29%	3.75%	0.00%	16.04%
Hulbert	7.30%	3.00%	0.00%	10.30%	5.10%	127%	0.09%	0.00%	7.39%	3.00%	0.00%	10.39%
Hydro	6.21%	3.00%	0.00%	9.21%	6.31%	167%	0.20%	0.00%	6.42%	3.00%	0.00%	9.42%
Kansas	2.61%	1.50%	0.00%	4.11%	3.05%	61%	0.07%	0.00%	2.68%	1.50%	0.00%	4.18%
Kiefer	7.55%	3.00%	0.00%	10.55%	7.52%	16%	0.23%	0.00%	7.78%	3.00%	0.00%	10.78%
Kingston	8.35%	3.75%	0.00%	12.10%	6.71%	124%	-0.08%	0.00%	8.27%	3.75%	0.00%	12.02%
Krebs & Krebs Utility Auth.	5.94%	3.00%	0.00%	8.94%	6.51%	106%	0.06%	0.00%	5.99%	3.00%	0.00%	8.99%
Laverne	4.15%	3.75%	0.00%	7.90%	7.60%	191%	-0.24%	0.00%	3.91%	3.75%	0.00%	7.66%
Lindsay	6.72%	3.75%	0.00%	10.47%	11.56%	252%	0.34%	0.00%	7.06%	3.75%	0.00%	10.81%
Madill	6.72%	4.50%	0.00%	11.22%	8.22%	230%	0.34%	0.00%	7.06%	4.50%	0.00%	11.56%
Mannford	19.03%	6.00%	0.00%	25.03%	13.28%	334%	0.31%	0.00%	19.34%	6.00%	0.00%	25.34%
Marietta	4.96%	5.25%	0.00%	10.21%	9.63%	175%	0.49%	0.00%	5.46%	5.25%	0.00%	10.71%
Marietta PWA	20.42%	5.00%	0.00%	25.42%	10.19%	217%	0.10%	0.00%	20.53%	5.00%	0.00%	25.53%
McLoud	3.81%	2.25%	0.00%	6.06%	5.99%	93%	0.13%	0.00%	3.94%	2.25%	0.00%	6.19%
Medford	20.61%	0.00%	4.00%	24.61%	10.15%	557%	-0.63%	0.00%	19.98%	0.00%	4.00%	23.98%
Meeker	4.96%	3.00%	0.00%	7.96%	8.85%	211%	0.14%	0.00%	5.11%	3.00%	0.00%	8.11%

PROJECTED IMPACT OF ASSET RETURN ON OMRF FUNDING REQUIREMENTS

City	2016 Rates						Projected Change Investments		2017 Projected Rates			
	Muni rate	Ee rate	Hybrid rate	Total rate	EANC%	MV % of payroll	Change in muni rate	Change in ee rate	Muni rate	Ee rate	Hybrid rate	Total rate
Miami	12.60%	3.75%	0.00%	16.35%	7.06%	201%	0.16%	0.00%	12.76%	3.75%	0.00%	16.51%
Mooreland	10.84%	4.00%	0.00%	14.84%	10.07%	355%	-0.07%	0.00%	10.77%	4.00%	0.00%	14.77%
Mountain Park MCD	31.80%	6.00%	0.00%	37.80%	11.76%	449%	-0.01%	0.00%	31.79%	6.00%	0.00%	37.79%
Muldrow	8.80%	4.50%	0.00%	13.30%	10.30%	251%	-0.08%	0.00%	8.72%	4.50%	0.00%	13.22%
Mustang	10.10%	5.25%	0.00%	15.35%	12.39%	281%	0.28%	0.00%	10.37%	5.25%	0.00%	15.62%
Nichols Hills	4.75%	6.00%	5.00%	15.75%	12.76%	507%	-0.59%	0.00%	4.16%	6.00%	5.00%	15.16%
Noble	11.46%	4.25%	0.00%	15.71%	11.32%	201%	0.24%	0.00%	11.70%	4.25%	0.00%	15.95%
Nowata	5.98%	5.00%	0.00%	10.98%	13.59%	215%	0.67%	0.00%	6.65%	5.00%	0.00%	11.65%
Oilton	4.68%	3.75%	0.00%	8.43%	8.12%	139%	0.35%	0.00%	5.03%	3.75%	0.00%	8.78%
Okeene	8.44%	3.60%	0.00%	12.04%	11.11%	467%	0.08%	0.00%	8.52%	3.60%	0.00%	12.12%
Okemah	5.60%	3.00%	0.00%	8.60%	6.59%	125%	0.05%	0.00%	5.65%	3.00%	0.00%	8.65%
Oklahoma Municipal League	11.87%	0.00%	0.00%	11.87%	14.50%	970%	0.46%	0.00%	12.33%	0.00%	0.00%	12.33%
OkMRF	13.08%	4.50%	0.00%	17.58%	13.53%	135%	0.51%	0.00%	13.58%	4.50%	0.00%	18.08%
Okmulgee	7.92%	0.00%	0.00%	7.92%	10.22%	585%	0.44%	0.00%	8.35%	0.00%	0.00%	8.35%
Owasso	7.11%	4.26%	0.00%	11.37%	10.57%	219%	0.43%	0.00%	7.55%	4.26%	0.00%	11.81%
Pawnee	9.12%	6.00%	0.00%	15.12%	12.49%	265%	0.58%	0.00%	9.71%	6.00%	0.00%	15.71%
Perkins	6.45%	4.50%	0.00%	10.95%	12.05%	253%	0.57%	0.00%	7.02%	4.50%	0.00%	11.52%
Perry	8.62%	4.00%	0.00%	12.62%	10.62%	186%	0.43%	0.00%	9.05%	4.00%	0.00%	13.05%
Piedmont	4.92%	3.00%	0.00%	7.92%	7.86%	16%	0.29%	0.00%	5.21%	3.00%	0.00%	8.21%
Pond Creek	11.48%	3.75%	0.00%	15.23%	6.56%	226%	-0.84%	0.00%	10.65%	3.75%	0.00%	14.40%
Porum	3.67%	2.25%	0.00%	5.92%	4.17%	58%	-0.17%	0.00%	3.50%	2.25%	0.00%	5.75%
Poteau	7.34%	4.25%	0.00%	11.59%	7.47%	372%	0.10%	0.00%	7.44%	4.25%	0.00%	11.69%
Ratliff City	4.99%	2.25%	0.00%	7.24%	5.13%	51%	0.01%	0.00%	5.00%	2.25%	0.00%	7.25%
Ringling	8.20%	2.25%	0.00%	10.45%	4.40%	127%	-0.37%	0.00%	7.83%	2.25%	0.00%	10.08%
Roland	5.82%	3.75%	0.00%	9.57%	8.34%	85%	0.62%	0.00%	6.44%	3.75%	0.00%	10.19%
Sallisaw	16.29%	7.00%	0.00%	23.29%	11.82%	373%	-0.26%	0.00%	16.03%	7.00%	0.00%	23.03%
Seiling	4.02%	4.90%	0.00%	8.92%	12.14%	258%	0.71%	0.00%	4.73%	4.90%	0.00%	9.63%
Shawnee	15.33%	4.25%	0.00%	19.58%	12.66%	944%	1.34%	0.00%	16.67%	4.25%	0.00%	20.92%
Skiatook	9.28%	4.50%	0.00%	13.78%	13.68%	20%	0.39%	0.00%	9.67%	4.50%	0.00%	14.17%
Spencer	9.39%	0.00%	5.25%	14.64%	9.99%	318%	0.09%	0.00%	9.48%	0.00%	5.25%	14.73%
Spiro	6.03%	3.00%	0.00%	9.03%	6.33%	204%	0.30%	0.00%	6.32%	3.00%	0.00%	9.32%
Stilwell	7.73%	4.50%	0.00%	12.23%	8.07%	327%	0.22%	0.00%	7.95%	4.50%	0.00%	12.45%
Stratford	1.98%	1.39%	0.00%	3.37%	4.49%	63%	0.07%	0.00%	2.05%	1.39%	0.00%	3.44%
Stroud	9.09%	4.50%	0.00%	13.59%	7.91%	213%	-0.03%	0.00%	9.05%	4.50%	0.00%	13.55%

PROJECTED IMPACT OF ASSET RETURN ON OMRF FUNDING REQUIREMENTS

City	2016 Rates						Projected Change Investments		2017 Projected Rates			
	Muni rate	Ee rate	Hybrid rate	Total rate	EANC%	MV % of payroll	Change in muni rate	Change in ee rate	Muni rate	Ee rate	Hybrid rate	Total rate
Sulphur	13.80%	5.00%	0.00%	18.80%	11.71%	450%	0.20%	0.00%	14.01%	5.00%	0.00%	19.01%
Talihina & TPWA	3.13%	2.25%	0.00%	5.38%	3.99%	115%	0.20%	0.00%	3.33%	2.25%	0.00%	5.58%
Thomas	16.81%	5.25%	0.00%	22.06%	10.95%	349%	-0.18%	0.00%	16.63%	5.25%	0.00%	21.88%
Tipton	5.43%	2.25%	0.00%	7.68%	4.04%	100%	0.26%	0.00%	5.69%	2.25%	0.00%	7.94%
Tishomingo	5.21%	3.00%	0.00%	8.21%	6.90%	89%	0.22%	0.00%	5.43%	3.00%	0.00%	8.43%
Tonkawa	7.68%	3.50%	0.00%	11.18%	10.74%	355%	0.42%	0.00%	8.10%	3.50%	0.00%	11.60%
Velma	6.10%	3.00%	0.00%	9.10%	7.49%	261%	0.44%	0.00%	6.54%	3.00%	0.00%	9.54%
Vian	3.46%	3.00%	0.00%	6.46%	6.48%	61%	0.12%	0.00%	3.58%	3.00%	0.00%	6.58%
Vinita	20.12%	5.25%	0.00%	25.37%	13.92%	565%	0.38%	0.00%	20.50%	5.25%	0.00%	25.75%
Wakita	4.47%	2.25%	0.00%	6.72%	3.55%	552%	0.59%	0.00%	5.06%	2.25%	0.00%	7.31%
Warr Acres	11.13%	4.00%	0.00%	15.13%	9.13%	494%	-1.45%	0.00%	9.69%	4.00%	0.00%	13.69%
Watonga	17.61%	4.00%	0.00%	21.61%	11.78%	400%	0.11%	0.00%	17.72%	4.00%	0.00%	21.72%
Waukomis	2.95%	5.25%	0.00%	8.20%	9.94%	182%	0.34%	0.00%	3.29%	5.25%	0.00%	8.54%
Waurika	6.65%	4.00%	0.00%	10.65%	12.02%	260%	0.79%	0.00%	7.44%	4.00%	0.00%	11.44%
Weatherford	8.75%	6.25%	0.00%	15.00%	10.73%	143%	0.07%	0.00%	8.82%	6.25%	0.00%	15.07%
Webbers Falls	1.60%	1.50%	0.00%	3.10%	2.79%	54%	-0.35%	0.00%	1.25%	1.50%	0.00%	2.75%
Wellston	6.92%	3.75%	0.00%	10.67%	8.96%	214%	0.21%	0.00%	7.12%	3.75%	0.00%	10.87%
Westville Utility Authority	4.51%	6.00%	0.00%	10.51%	10.69%	182%	0.24%	0.00%	4.74%	6.00%	0.00%	10.74%
Wetumka	19.11%	5.25%	0.00%	24.36%	9.59%	371%	-0.32%	0.00%	18.79%	5.25%	0.00%	24.04%
Yale	7.34%	6.00%	0.00%	13.34%	14.12%	307%	0.61%	0.00%	7.95%	6.00%	0.00%	13.95%
Yukon	15.90%	3.00%	0.00%	18.90%	11.00%	328%	-1.30%	1.00%	14.60%	4.00%	0.00%	18.60%
Averages	9.08%	3.78%	0.15%	13.01%	9.34%	286.31%	0.05%	0.01%	9.13%	3.79%	0.15%	13.07%

New plans adopting

None												
-------------	--	--	--	--	--	--	--	--	--	--	--	--

7/1/2016 Valuation Method and Assumptions

Recommendations

- No change to assumptions from last year
 - Quinquennial experience study due next year
 - Society of Actuaries government plan mortality study expected next year
- No change in methods from last year